

02/14/14 Agenda

- Warm up exercise
- Review Homework
 - Worksheet 6.5 - Linear Inequalities
- Section 6.6 - Systems of Linear Inequalities
- Homework - Worksheet 6.6 - Systems of Inequalities

Warm Up

Graph:

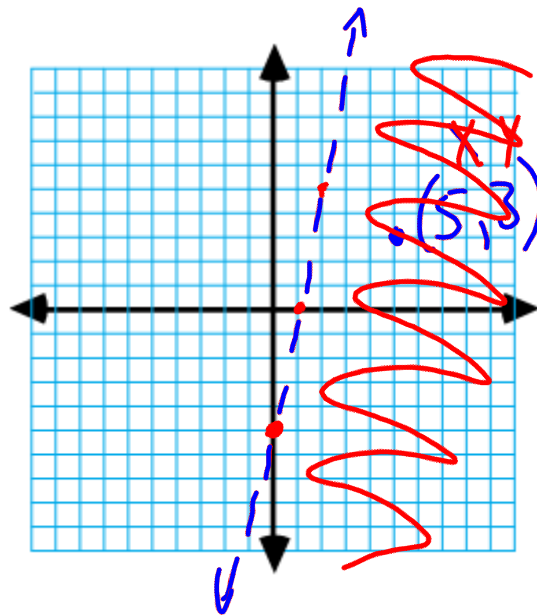
$$m = \frac{5}{1} \begin{matrix} \uparrow \\ \rightarrow \end{matrix}$$
$$b = -5$$

$$y < 5x - 5$$

$$3 < 5(5) - 5$$

$$3 < 20 \text{ TRUE}$$

$$y < 5x - 5$$



6.6 - Systems of Linear Inequalities

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Recall from yesterday:

Type of Line

Solid $\leq \geq$

Dashed $< >$

Shading

Above/Right $> \geq$

Below/Left $< \leq$

Examples:

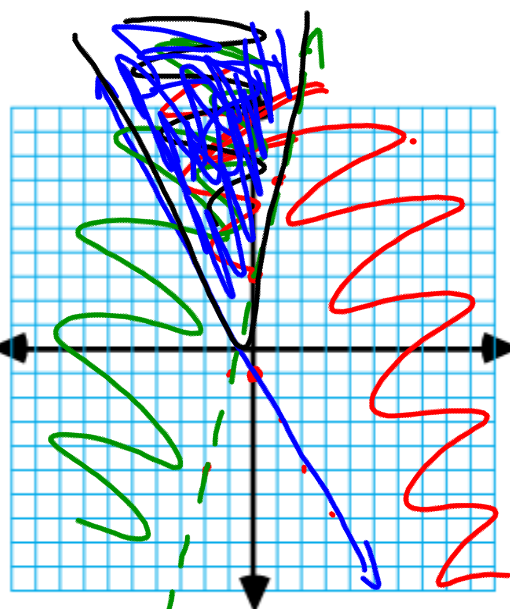
1) $y \geq -2x - 1$

$y > 4x + 3$

SOLUTION
IS SHADED
SECTION THAT
SATISFIES
BOTH
INEQUALITIES

$m = -\frac{2}{1} \rightarrow b = -1$

$m = \frac{4}{1} \rightarrow b = +3$



6.6 - Systems of Linear Inequalities

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Examples:

2)

$$y > x - 3$$

$$m = \frac{1}{1}$$
$$b = -3$$

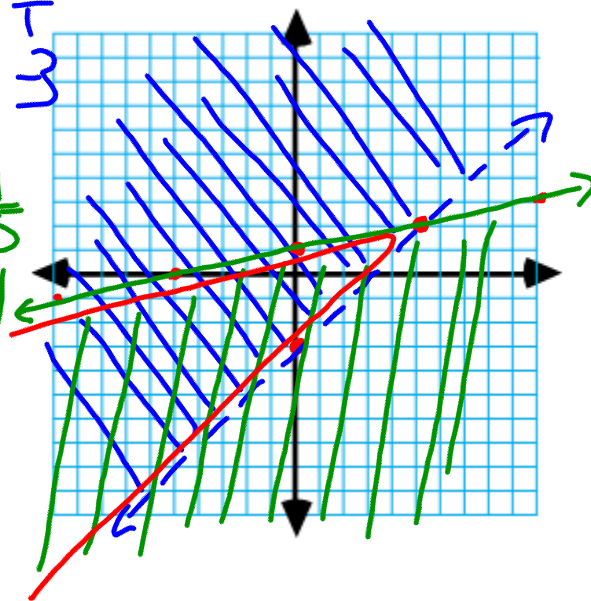
$$y \leq \frac{1}{5}x + 1$$

$$m = \frac{1}{5}$$
$$b = 1$$

x
 y
 $(0, 0)$

$$0 > 0 - 3$$
$$0 > -3 \quad \checkmark$$

$$0 \leq \frac{1}{5}(0) + 1$$
$$0 \leq 1 \quad \checkmark$$



6.6 - Systems of Linear Inequalities

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Examples:

If not in
 $y = mx + b$ form,
rearrange it first.

Remember to flip
the inequality when
multiplying or
dividing by a
negative number.

FLIP
SYMBOL

$$3) \quad x + 2y < -4$$

$$\frac{-x}{2} < \frac{-x-4}{2}$$

$$y < -\frac{1}{2}x - 2$$

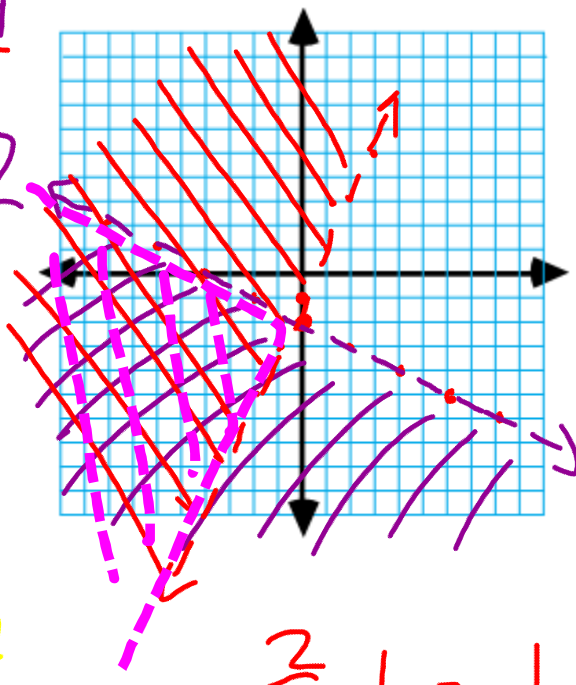
$$m = -\frac{1}{2} \quad b = -2$$

$$2x - y < 1$$

$$\frac{-2x}{-1} < \frac{-2x+1}{-1}$$

$$y > 2x - 1$$

$$m = 2 \quad b = -1$$



6.6 - Systems of Linear Inequalities

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Examples:

4)

$$4x + 3y \geq 6$$

$$x - 3y > 9$$



Happy
Valentine's Day!

